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CDC: Raw Milk-Related Outbreaks on the Rise

By James Andrews | December 12, 2014

During the three years from 2007 to 2009, 30 foodborne illness outbreaks in the U.S. were connected to raw milk consumption. Yet, in the next three years, from 2010 to 2012, that number rose to 51, according to a new study published in the January issue of Emerging Infectious Diseases, a peer-reviewed monthly journal published by the Centers for Disease Control and Prevention (CDC).

In that time, 81 percent of raw milk-related outbreaks occurred in states that allow for the legal sale of raw milk. Retail sale of raw milk is legal in 10 states, on-farm sales are legal in another 16, and seven states have legalized herd-share programs, in which a number of people "buy in" to owning dairy cows from which they receive raw milk.

The leading cause of these illnesses was Campylobacter, which accounted for 62 of the 81 outbreaks. Campylobacter, an infectious bacteria found in some animal feces, causes bouts of diarrhea, vomiting and cramping in most people, but can cause long-lasting arthritis and rare nerve disorders in a small number of those it infects.

Other leading pathogens included E. coli, with 13 outbreaks, and Salmonella, with two.

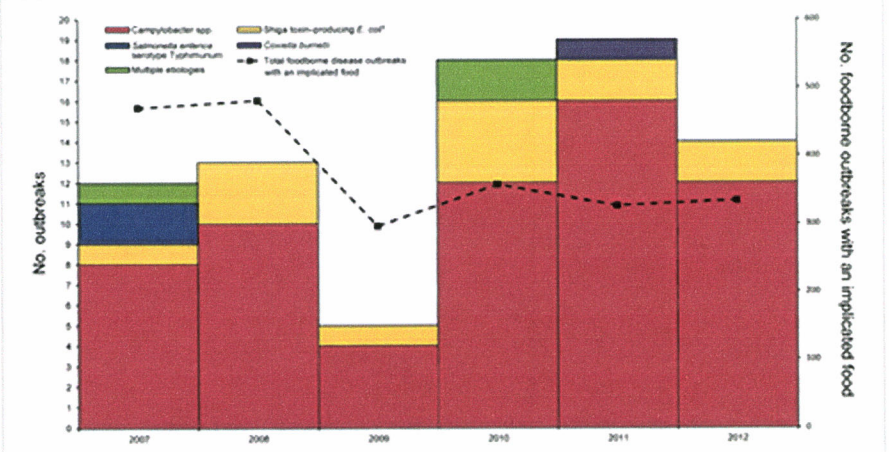

Figure 1. Outbreaks associated with nonpasteurized milk, by etiologic agent and year, United States, 2007–2012. Three outbreaks involved multiple pathogens: Campylobacter spp. and Salmonella enterica serotype Typhimurium; Shiga toxin–producing Escherichia coli O157:H7 and Campylobacter; Campylobacter and Cryptosporidium. E. coli serogroups: O157 (10 outbreaks),

The increase in raw milk-related outbreaks could be partially explained by the rising popularity of drinking raw milk, which is milk that has not been pasteurized to eliminate potentially harmful pathogens.

O111 (1 outbreak), O26:H11 (1 outbreak), O157:H7 and O121 (1 outbreak).

The study counted 979 confirmed illnesses and 73 hospitalizations linked to raw milk over the six-year period. (It may be important to note that, with most pathogens, experts estimate there are a few dozen uncounted illnesses for every one illness confirmed by a health laboratory.)

From 2007 to 2009, raw milk accounted for about 2 percent of outbreaks where the food source was discovered. From 2010 to 2012, that percentage increased to 5.

Fifty-nine percent of outbreaks included a patient younger than 5. Twenty-eight percent of the E. coli illnesses from raw milk affected patients between the ages of 1 and 4.

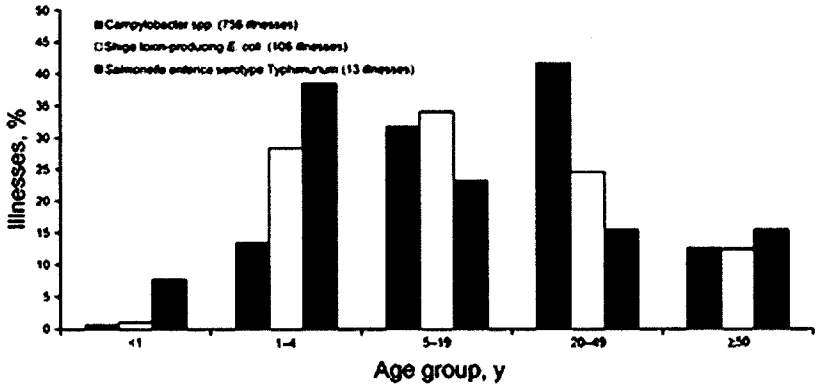

Figure 2. Percentage of patients affected by outbreaks associated with nonpasteurized milk, by age and etiologic agent, United States, 2007–2012.

The states with the greatest number of raw milk outbreaks during this time are as follows:

- Pennsylvania (17 outbreaks)
- New York (6)
- Minnesota (6)
- South Carolina (5)
- Washington (5)
- Utah (5)

Sales of raw milk are legal at either the retail or farm level in each of those states.

A similar survey was conducted for the period of 1993 to 2006. The researchers of this new study found that the number of outbreaks linked to raw milk was four times greater overall in the 2007 to 2012 period.

The period from 2007 to 2012 averaged 13.5 raw milk-related outbreaks per year, while

the period of 1993 to 2006 averaged only 3.3 such outbreaks per year. Again, part of this difference could be attributed to the growing popularity of raw milk consumption.

Another likely contributor to the rising number of raw milk-related outbreaks is that more states are loosening restrictions on the sale of raw milk. In 2004, raw milk sales were illegal in 28 states. By 2010, that number had dropped to 20. Also during that time, the number of states allowing herd-share programs increased from 5 to 10.

"The decision to legalize the sale of nonpasteurized milk or allow limited access through cow-share programs may facilitate consumer access to nonpasteurized milk," the study authors note.

Legal sales in one state can also lead to illnesses in states where sales are illegal. For example, a 2011 outbreak of Campylobacter linked to a South Carolina raw-milk dairy resulted in illnesses in North Carolina, where sales are illegal.

In 2012, another Campylobacter outbreak from a raw milk farm in Pennsylvania resulted in illnesses in Maryland, West Virginia and New Jersey — all states where raw milk sales are prohibited. All patients from those states drove to Pennsylvania to obtain the raw milk.

The study did not include outbreaks attributed to raw-milk products, such as cheese, for which numerous illness outbreaks were also reported during the study's time period.

"Legalization of the sale of nonpasteurized milk in additional states would probably lead to more outbreaks and illnesses," the authors wrote, adding that populations such as children and the elderly were especially vulnerable to any negative consequences.

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